



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,227	01/21/2004	Kia Silverbrook	MPA31US	2050
24011	7590	04/24/2006	EXAMINER	
SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, NSW 2041 AUSTRALIA			GOLDBERG, BRIAN J	
			ART UNIT	PAPER NUMBER
			2861	

DATE MAILED: 04/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

17

Office Action Summary	Application No. 10/760,227	Applicant(s) SILVERBROOK ET AL.	
	Examiner Brian Goldberg	Art Unit 2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 2/8/06. These drawings are acceptable.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Silverbrook et al. (US 6439908).
3. Regarding claim 1, Silverbrook et al. disclose "at least one printhead module (10 of Fig 2) comprising at least two printhead integrated circuits (18 of Fig 4), each of which has nozzles formed therein for delivering printing fluid onto the surface of print media (col 3 ln 45-47), a support member (16 of Fig 7) supporting the at least two printhead integrated circuits and having at least one longitudinally extending channel (80 of Fig 7) for carrying the printing fluid, and an electrical connector (48 of Fig 8) for connecting electrical signals to the printhead integrated circuits; a casing (14 of Fig 3) comprising an elongate support frame (64, 94, lower parts of 76 and 32 of Fig 2), removably mounting the at least one printhead module and drive electronics arranged to control the printing operation of at least one of the at least two printhead integrated circuits via the electrical connector (col 3 ln 48-49); and at least one connector arrangement (22 of Fig 8) arranged in a housing (28 of Fig 8) mounted to at least one

Art Unit: 2861

longitudinal end of the support frame and carrying at least one power terminal (48 of Fig 8) for connecting the electrical connector to a power supply, at least one data terminal (48 of Fig 8) for connecting the drive electronics to a data input (col 2 In 57-58 and col 3 In 59-64), and at least one fluid delivery port (72 of Fig 8) for connecting the at least one channel of the support member to a fluid supply via fluid delivery tubes (78 of Fig 12), the housing being configured to allow connection of the power and data terminals (48 of Fig 8, col 2 In 57-58) and fluid delivery port (72 of Fig 8) to the respective power supply, data input (col 3 In 59-64) and fluid delivery tubes (78 of Fig 12).” The cover molding 28 houses the connector arrangement 22.

4. Regarding claim 2, Silverbrook et al. disclose “wherein two connector arrangements (22 of Fig 8 and 54 of Fig 3) are provided comprising a first connector arrangement (22) carrying the power and data terminals (48 of Fig 8 and col 3 In 59-64) and the fluid delivery port (72 of Fig 8) at one longitudinal end of the support frame and a second connector arrangement (54) at the other longitudinal end of the support frame spring loading at least one first printed circuit board on which the drive electronics are carried in the direction of the first connector arrangement (col 4 In 24-28).”

5. Regarding claim 3, Silverbrook et al. disclose “the first connector arrangement is a second printed circuit board (22 of Fig 8) and the second connector arrangement is a third printed circuit board (54 of Fig 3); and the at least one first printed circuit board (18 of Fig 8) is engaged at the one end of the support frame (28 of Fig 8) by the second printed circuit board (22 of Fig 8) and is engaged at the other end of the support frame

by a spring portion formed in the third printed circuit board (54 of Fig 3 and col 4 ln 24-28).”

6. Regarding claim 5, Silverbrook et al. disclose “a plurality of longitudinally extending electrical conductors (58 and 60 of Fig 14) connected to the second printed circuit board for delivering the power from the power supply to the drive electronics and printhead integrated circuits via the electrical connector (col 3 ln 57-65 and col 5 ln 27-29, 43-45).”

7. Regarding claim 6, Silverbrook et al. disclose “wherein the third printed circuit board (54 of Fig 3) carries another power terminal of the at least one power terminal (col 3 ln 57-65) and another fluid delivery port (col 4 ln 14-16) of the at least one fluid delivery port.”

8. Regarding claim 7, Silverbrook et al. disclose “a plurality of longitudinally extending electrical conductors arranged as two groups of electrical conductors (58 and 60 of Fig 14) respectively connected to the second and third printed circuit boards (located on 28 of Fig 3) for delivering the power from the power supply to the drive electronics and printhead integrated circuits via the electrical connector at respective ends of the printhead assembly, respective ones of electrical conductors of the two groups of electrical conductors being connected together at abutting regions intermediate the ends of the printhead assembly (see Fig 3, col 3 ln 57-65, and col 5 ln 43-46).”

Art Unit: 2861

9. Regarding claim 8, Silverbrook et al. disclose “wherein the abutting regions of the individual electrical conductors are arranged in overlapping relationship (see Fig 3 and col 5 ln 45-46).”

10. Regarding claim 9, Silverbrook et al. disclose “wherein the third printed circuit board (54 of Fig 3) comprises termination connections for terminating a data signal traversing the at least one first printed circuit board from the second printed circuit board (col 4 ln 6-18).”

11. Regarding claim 10, Silverbrook et al. disclose “the at least one printhead module (10 of Fig 2) is formed as a unitary arrangement of the at least two printhead integrated circuits (18 of Fig 4), the support member (16 of Fig 7), the electrical connector (48 of Fig 8), and at least two fluid distribution members (26 of Fig 7) each mounting one of the at least two printhead integrated circuits to the support member; and the support member has a plurality of apertures (42 of Fig 7) extending through a wall of the support member arranged so as to direct the printing fluid from the at least one channel to associated nozzles in both, or if more than two, all of the printhead integrated circuits by way of respective ones of the fluid distribution members (see Fig 7 and col 3 ln 45-47).”

Response to Arguments

12. Applicant's arguments filed 2/8/06 have been fully considered but they are not persuasive.

13. Regarding claim 1, the current application contains integrated printhead circuits 51 on tiles 50 that are arranged on top of the fluid channel member 40, which extends

Art Unit: 2861

the length of the printhead as can be seen in figure 4A. As stated in paragraph [0090] of the present application, "as illustrated in Figs. 1 and 2, sixteen printhead tiles 50 [each with one integrated printhead circuit 51 as seen in figure 5A] are provided in the printhead module 30." In figures 1 and 2, the arrow of 30 is pointing to a single printhead tile/integrated circuit, and the figures also show that there are sixteen printhead tile/integrated circuits comprising the entire length of the printhead.

Therefore, if sixteen printhead tiles are provided in the printhead module as stated, then the module must be considered the entire length of the apparatus shown in figures 1 and 2, with one fluid channel member 40 (or a series of sixteen interconnected fluid channel members) containing sixteen sets of outlet ports 42 as shown in figure 4A, and sixteen printhead tiles/integrated circuits on the upper surface of that one fluid channel member (or series of interconnected fluid channel members). Hence, either each printhead module (indicated by the arrow of 30 in figures 1 and 2) has only one printhead tile/integrated circuit, which contradicts the claim, or the printhead module is to be taken to mean the entire length shown in figures 1 and 2 where the module has at least two printhead tiles/integrated circuits and is shown in the figures with sixteen printhead tiles/integrated circuits.

14. A similar analysis can be applied to the cited reference, and the printhead module 10 can be taken to mean the entire length shown in figure 2 to satisfy the claimed printhead module of the instant application.

15. In describing the Memjet chip, Silverbrook discloses that it contains a drive transistor and that sixteen data connections drive the chip (see col 3 ln 48-49 as cited

above), which constitutes drive electronics. Also, contrary to the applicant's contention, Silverbrook does not disclose anywhere in the specification that the connector 66 connects to an external controller. Further, the contact pads 48 disclosed by Silverbrook are power and data terminals for supplying power and data to the chip (see col 3 ln 59-64 as cited above).

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Goldberg whose telephone number is 571-272-2728. The examiner can normally be reached on Monday through Friday, 9AM-5PM.

Art Unit: 2861

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



BJG

April 19, 2006

Binh Nguyen
Primary Examiner
Technology Center 2800